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An Analysis of Current and Proposed Federal Legislation Seeking to Control the Use of Toxic Materials

Environmental Protection Agency

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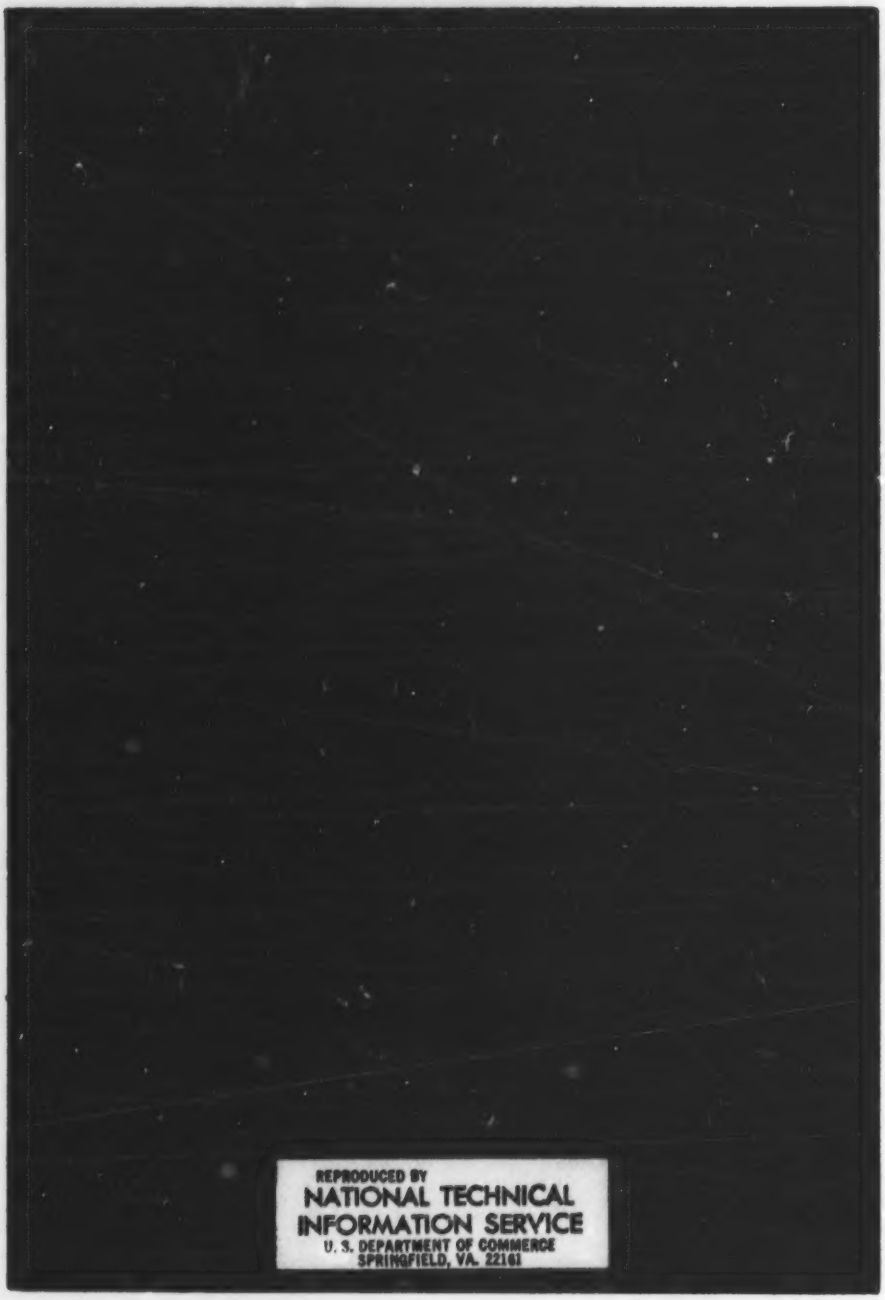
EFFLUENT STANDARDS AND WATER QUALITY INFORMATION

ADVISORY COMMITTEE

AN ANALYSIS OF CURRENT AND PROPOSED FEDERAL LEGISLATION SEEKING TO CONTROL THE USE OF TOXIC MATERIALS



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16. Abstract: **The establishment of standards for toxic substances discharge** from industrial sources is extremely complex due to the wide range of current and proposed legislation related to toxic substances as well as the regulation options available under PL 92-500. Accordingly, and analysis of current and proposed legislation was undertaken to prepare a guidance document which will provide a means for analyzing legislation and standard setting impacts and assist in implementing Sec. 307. The results of this study will be of direct use to the Administrator of EPA as a guide to overlaps or omissions in the regulatory controls over which he has the major responsibility and help delineate and define the mandate of Sec. 307 of PL 92-500. The results of the study are being utilized by ES&WQIAC pursuant to its responsibilities and have already proven of value to Congress in developing the new Toxic Substances Control Bill.

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Law 0504
UF Public Law 92-500 Sec. 307
NT Environmental Law

17b. Identifiers/Open-Ended Terms

Toxicology 0620
RT Pollution

17c. COSATI Field/Group

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

EFFLUENT STANDARDS AND WATER QUALITY
INFORMATION ADVISORY COMMITTEE

Nov. 26, 1975

The Honorable Russell E. Train
Administrator
U.S. Environmental Protection Agency
Waterside Mall West
Washington, D. C. 20460

Dear Mr. Train:

The Effluent Standards and water Quality Information Advisory Committee (ES&WQIAC) has been concerned with the enormity of the problems facing both the Agency and the Nation in the area of regulation of toxic substances in the environment.

In fulfilling the ES&WQIAC responsibilities under its mandate in PL 92-500, the Committee has provided extensive information and recommendations over the past two years to assist in expediting implementation of the Toxic Substances requirements of the Act. Despite such inputs the Agency has been unable to develop and promulgate its toxic substances standards.

The ES&WQIAC has continued to seek ways to expedite a practical and equitable implementation. One such effort is a review of a wide range of legislation and regulations currently covering toxic substances. It appeared that a careful analysis of these sources could provide guidance on implementation of Sec. 307 of PL 92-500 and preclude overlaps and omissions in its implementation. Timing of this effort was especially important in view of the new toxic substances bills under consideration by Congress.

According, the study reported here was prepared by ES&WQIAC to assist the Agency and provide guidance to Congress on its new legislation.

Respectfully,

Martha Sager

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Martha Sager
Chairman

AN ANALYSIS OF CURRENT AND PROPOSED
FEDERAL LEGISLATION SEEKING TO CONTROL
THE USE OF TOXIC MATERIALS

FOREWORD

One of the responsibilities of the ES&WQIAC under Sec. 515 of PL 92-500 is to provide advice to the Administrator of EPA on the development of limitations on toxic substances discharge from industrial sources. The establishment of such guidelines is extremely complex due to the wide range of current and proposed legislation related to toxic substances as well as the regulation options available under PL 92-500. The problem is further compounded by the fact that conflicting standards may be developed. Accordingly, an analysis of current and proposed legislation was undertaken to prepare a guidance document which will provide a means for analyzing legislation and standard setting impacts and assist in implementing Sec. 307.

The results of this study will be of direct use to the Administrator of EPA as a guide to overlaps or omissions in the regulatory controls over which he has the major responsibility and help delineate and define the mandate of Section 307 of PL 92-500.

The results of the study are being utilized by ES&WQIAC pursuant to its responsibilities and have already proven of value of Congress in developing the new Toxic Substances Bill.

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Examples of ES&WQIAC Recommendations to EPA on Toxic Substances Lists and Criteria

ES&WQIAC Membership

Abstracts of Major Federal Legislation with Toxic Material Control Provisions:
(Bound Separately For Reference)

1. Federal Food, Drug and Cosmetic Act (PL 75-717)

2. Federal Hazardous Substances Act (PL 86-613)
   a. Federal Caustic Poison Act
   b. Poison Prevention Packaging Act

3. Occupational Safety and Health Act (PL 91-596)

4. Federal Environmental Pesticide Control Act, (FIFRA) (PL 92-516)

5. Federal Water Pollution Control Act (P. 92-500)

6. Marine Protection Research and Sanctuaries Act (Ocean Dumping Act) (PL 92-532)

7. Safe Drinking Water Act (PL 93-523)

8. Proposed Toxics Substances Bill
   a. Analysis of Congressional efforts to enact new toxic legislation
   b. Summary of proposed Toxic Substances Control Bill (S. 776)

INTRODUCTION

The definition of toxic substances in PL 92-500 addresses the effects of toxic substances on the environment and man. However, Section 304, "Information and Guidelines" (for the establishment of effluent standards), is directed toward development of effluent limitations in terms of: restoring and maintaining the chemical, physical and biological integrity of all navigable waters, waters of the contiguous zone, and the oceans; protection and propagation of shellfish, fish and wildlife for classes and categories of receiving waters; and to allow recreational activities in and on the water.

On the basis of the above statements the study assumes that PL 92-500 is primarily concerned with the control of toxic substances for the protection of aquatic ecosystems (natural environment) and not with toxic substances as they affect man's occupational environment, food, drug, cosmetic use or consumer use. This does not mean however, that toxic data collected for the purpose of control, under a law written primarily for man's protection, cannot or should not be utilized by agencies and committees, such as ES&WQIAC, working with natural environment laws.

The study directs attention to any and all provisions in the U.S. Code (laws passed by Congress) and the Code of Federal Regulations (USCFR - regulations issued by Federal agencies) where selection criteria, protocols, standards

and other mechanisms have produced data, methods, information useful to ES&WQIAC in their attempts to work with Section 307 of the Water Pollution Control Act.

STUDY OBJECTIVES

For the purposes of this study, the research was restricted to provisions in the law, regulations, guidelines, standards and criteria which apply specifically to those materials which can be toxic (hazardous) to man and his environment.

Further, the study centered on the legal mechanisms, existing and proposed for restricting/banning the manufacture and use of the most highly toxic materials.

These toxic materials are the toxic by-products of industrial and commercial operations as well as toxic materials which are manufactured or used by the general public.

Proposed Federal legislation was examined to determine:

1. If conflicting standards and authorities are resolved.
2. If the new legislation helps to clarify and thereby aid in the establishment of setting effluent standards for toxic substances.

Finally, once the major Federal laws for the control of toxic/hazardous substances were abstracted, the following analyses were performed.

1. Impact on standards development.
2. Conflicts and compatibility of current standards.
3. Development of rationale for the application of standards and limitations.

STUDY APPROACH

Our study of legislation covered the following:

Current

PL 92-500 - Water Pollution Control Act - Sec. 307

PL 92-532 - Ocean Dumping Act

PL 93-523 - Safe Drinking Water Act

PL 92-516 - Federal Environmental Pesticide Control Act

PL 91-596 - Occupational Safety and Health Act

PL 75-717 - Federal Food, Drug and Cosmetic Act

PL 86-613 - Federal Hazardous Substances Act

Proposed

H.R. 7664 McCollister

H.R. 7458 Brodhead } versions of the new and proposed

H.R. 7229 Eckhardt Toxic Substance Control Bill

S. 776 Tunney

Each Federal Act was abstracted and catalogued in terms of the:

Protectee

Goal

Definition

Selection Criteria

Test Protocols

Standards

Agency Authority

Regulation Agency

Enforcement Agency

Prohibition Mechanism

The information has been reduced to a chart, found on Table I for purposes of analysis and presentation.

Complete, applicable sections of the U.S. Code and the Code of Federal Regulations with respect to the control of toxic/hazardous materials, have been bound separately for ES&WQIAC reference use.

ANALYSIS OF FINDINGS

Analysis of the legislation indicated the following:

1. The toxic legislation reflects two major concerns:
   A. The effects of toxic materials on man, the consumer, the worker.
   B. The effects of toxic materials on the natural environment.

Those Acts concerned either exclusively or predominately with man are:

a. Safe Drinking Water Act (PL 93-523)

b. Occupational Safety and Health Act (PL 91-596)

c. Federal Food, Drug and Cosmetic Act (PL 75-717)

d. Federal Hazardous Substance Act (PL 86-613)

Concern for the effects of toxic materials on the natural environment are found in:

a. Federal Water Pollution Control Act Amendments (PL 92-500)

b. Marine Protection Research and Sanctuaries Act (PL 92-532) (Ocean Dumping Act)

c. Federal Environmental Pesticides Control Act (PL 92-516) (FIFRA)

d. Toxic Substances Control Bills

2. Definitions

Only the Federal Hazardous Substance Act defines hazardous toxic and highly toxic substances.

The Water Pollution Control Act (PL 92-500) and the Federal Hazardous Substances Act have the only definitions of "toxic pollutant" among the eight Acts.

PL 92-500's definition is compatible with the Guidelines for Registering Pesticides in the United States containing extensive test protocols under the Federal Environmental Pesticides Control Act (FIFRA).

3. Selection Criteria

Of the four Acts with natural resource protection provisions from toxic/hazardous substances, only FIFRA (PL 92-516) has promulgated regulations and guidelines which provide criteria for selecting those chemicals which are potentially hazardous to the aquatic environment.

4. Test Protocols

Of the four Acts seeking to control toxic and hazardous materials in the natural environment only under FIFRA have test protocols been promulgated for developing data used in evaluating hazards in the use of a chemical/pesticide.

5. Standards

The analyses of existing standards revealed that of the three existing laws concerned with the protection of aquatic organisms, only the Ocean Dumping Act has as yet promulgated standards. These standards are in the form of trace contaminant concentrations of mg/kg (both solid and liquid) for Mercury, Cadmium and Organohalogens.

Toxicity levels under acute and chronic conditions were initially proposed by EPA in July 1973 for toxic and hazardous substances under PL 92-500. However, these standards were deemed unsubstantiated in a hearing and new

standards have not been proposed. Proposed interim standards were promulgated in March 1975 setting maximum contaminant levels in mg/l for inorganic and organic chemicals, and pesticides under the Safe Drinking Water Act. The same toxic pollutants in water which affect man, as he drinks the water, may have an entirely different affect on aquatic organisms. Thus it is difficult to compare standards in the Safe Drinking Water Act and standards developed for the protection of aquatic organisms as in PL 92-500, assuming that PL 92-500 is primarily concerned with aquatic organisms.

Cadmium, Toxaphene and a few Organic Compounds have standards in both PL 92-500 (307) (formerly proposed) and Ocean Dumping (existing). Again, it is difficult to compare standards because proposed standards for Section 307 were for freshwater organisms and existing standards for Ocean Dumping apply to marine organisms only.

6. Agency Authority

In all four Acts dealing with the control of toxic/hazardous materials in the natural environment, EPA has the overall, overview authority, with the power to set criteria standards in cooperation with the States and other applicable Federal agencies. For example, the administering of the Ocean Dumping Law involves: EPA, Army Corps of

Engineers (issuance of permits for disposing of dredged material) NOAA (research and monitoring) and the Coast Guard (surveillance and compliance monitoring) and may involve others such as HEW if research and studies of toxic affects are involved.

Federal agencies which have responsibilities in the control of toxic/hazardous substances are:

Agency	Role
EPA	Administration, Regulation, Enforcement and Research
Labor	Administration, Regulation and Enforcement
Health, Education and Welfare	Administration, Regulation, Enforcement and Research
Consumer Product Safety Commission	Administration, Regulation and Enforcement
Agriculture	Research, Information
National Oceanic and Atmospheric Admin.	Surveillance and Monitoring
Geological Survey	Surveillance and Monitoring
Coast Guard	Surveillance and Monitoring

7. Prohibition Mechanisms

The authority to prohibit toxic pollutant discharges is provided in all four Acts seeking to protect the natural environment although only FIFRA has exercised this authority successfully.

Under FIFRA, Aldrin, Dieldrin and DDT have gone through cancellation proceedings and manufacture has been suspended, with a very few exceptions for DDT. Imminent hazard has been declared by EPA again under FIFRA for Chlorine Heptachlor and suspension and cancellation hearings are proceeding.

Section 307 of PL 92-500 also has a prohibition mechanism. It provides that effluent standards be set for toxic pollutants which may include a prohibition of the discharge of such pollutants or combination of such pollutants.

8. Meaning of the New Toxic Substances Bill in relation to PL 92-500.

The new Toxic Substances Bill, although it purports to protect the natural environment, as well as man, the consumer, worker; leans heavily on the side of man's protection from toxic/hazardous materials.

The definition of environment is quite general:

> "environment includes man and the human environment, water, air, land, and living things therein, and the interrelationships which exist among and between these".

PL 92-500, FIFRA and Ocean Dumping still stand alone in their legally expressed concerns for aquatic organisms.

The mechanism prescribed for developing criteria for data development is set up on a case by case basis with strong discretionary powers delegated to the EPA Administrator. It therefore does not appear to help clarify and aid in the establishment of setting effluent standards for toxic substances.

SUMMARY OF FINDINGS

Key findings of all the toxics legislation and the four current bills can be summarized as follows:

Protection of the physical/chemical factors of the environment is absent from the current toxic substance control acts. There exists a need for the inclusion of such protection of the a-biotic systems (air, water and land) from toxic and hazardous materials abuse to insure the continuance of these life-support systems.

The proposed Toxic Substance Control Bills do include this specific protection of a-biotic systems in the phrase "water, air, land, all living things and the interrelationship which exists among these" pg 58 Magnuson, pg 43 McCollister, pg 94 Brodhead, and, therefore, fill a previous void in toxic legislation.

The proposed bills do suggest use of multi-interest groups or persons during the evaluation procedure, filling a void which presently exists.

Each proposed bill contains a formal statement expressing a desire not to impede technological development.

Each proposed bill includes statements about the regulation of commercial traffic in toxic materials within the U.S. which is similar to currently existing legislative terminology.

CONCLUSION

Legally binding provisions in the U.S. Code and Federal Regulations - existing and proposed - do not tell the whole story of efforts by the Federal Government to control toxic/hazardous substances. There are methods, manuals, and procedures continuously being developed by the various Federal Agencies charged with this responsibility. EPA, for purposes of carrying out the Ocean Dumping Act, has developed ODAM - an Ocean Disposal Analytic Methods Manual containing test protocols to help the seven EPA Coastal Regions to issue permits on a regional level.

The ES&WQIAC study has concisely clarified the legal framework operating to control toxic/hazardous materials and shed additional light on methods and procedures being developed as a result of those laws.

It has also documented and catalogued, wherever possible, all selection criteria, protocols, standards and other mechanisms operating to control toxics.

Solutions to the problems of toxic control, have evidently been proved inadequate, including the method of setting effluent standards and the enactment of a new law which attempts to provide an overview function. In fact, the trend of additions to the toxic control laws in the form of amendments, regulations, guidelines and even the new Toxic Substances Bill seems to be moving away from the setting of standards and towards negotiation and decision-making on a case-by-case basis.

	END OF PIPE	MARINE EQUIPMENT	MUNICIPAL INTAKE
TITLE	WATER POLLUTION CONTROL ACT (PL 92-500), (SECTION 307)	MARINE PROTECTION RESEARCH AND SANCTUARIES ACT (OCEAN DUMPING ACT) (PL 92-532)	SAFE WATER DRINKING ACT (PL 93-523)
DATE	1972	1972	1974
PROTECTEE	CONSUMER (RECREATION) AND THE NATURAL ENVIRONMENT.	CONSUMER (RECREATION) AND NATURAL ENVIRONMENT.	CONSUMER
GOAL	SEC. 307, (PL 92-500) "TO PUBLISH A LIST OF TOXIC POLLUTANTS FOR WHICH AN EFFLUENT STANDARD IS TO BE ESTABLISHED; TAKING INTO ACCOUNT PERSISTENCE, DEGRADABILITY, POTENTIAL PRESENCE AND IMPORTANCE OF AFFECTED ORGANISMS, AND THE EFFECT OF THE TOXIC POLLUTANT ON THE ORGANISM."	TO REGULATE DUMPING AND TO PREVENT OR LIMIT DUMPING WHICH WOULD AFFECT HUMAN HEALTH/MARINE ENVIRONMENT.	TO EXTEND TO ALL PUBLIC WATER SUPPLY SYSTEMS IN THE U.S., FEDERAL STANDARDS FOR PUBLIC WATER SYSTEMS.
DEFINITIONS	"TOXIC POLLUTANT" MEANS THOSE POLLUTANTS OR COMBINATIONS OF POLLUTANTS, INCLUDING DISEASE-CAUSING AGENTS, WHICH AFTER DISCHARGE AND UPON EXPOSURE, INGESTION, INHALATION OR ASSIMILATION INTO ANY ORGANISM EITHER DIRECTLY FROM THE ENVIRONMENT OR INDIRECTLY BY INGESTION THROUGH FOOD CHAINS, WILL, ON THE BASIS OF INFORMATION AVAILABLE TO THE ADMINISTRATOR, CAUSE DEATH, DISEASE, BEHAVIORAL ABNORMALITIES, CANCER, GENETIC MUTATIONS, PHYSIOLOGICAL MALFUNCTIONS (INCLUDING MALFUNCTIONS IN REPRODUCTION OR PHYSICAL DEFORMATIONS IN SUCH ORGANISMS OR THEIR OFFSPRING.	DOES NOT DEFINE TOXIC/HAZARDOUS.	DOES NOT DEFINE TOXIC/HAZARDOUS
SELECTION CRITERIA	NONE	PART 227, 40 CFR CONTAINS CRITERIA FOR EVALUATION OF PERMIT APPLICATIONS BASED ON ENVIRONMENT IMPACT (SEE REF.)	NONE
TEST PROTOCOLS	NONE	NONE	SAMPLING AND ANALYSES REQUIREMENTS TO DETERMINE COMPLIANCE FOR INORGANIC CHEMICALS PESTICIDES AND ORGANIC CHEMICALS. (141.23, 24, PROPOSED)
STANDARDS	NONE	TRACE CONTAMINANT LIMITS SPECIFIED, (227.22, 40 CFR)	PROPOSED INTERIM STANDARDS 14, 1975, SET MAX. CONTAMINANT LEVELS FOR INORGANIC, ORGANIC CHEMICALS PESTICIDES. (141.11, 12, 13)
AGENCY REGULATION ENFORCEMENT	EPA EPA EPA	EPA EPA EPA	EPA STATES (MUST DEMON. CAPABILITY) STATES (MUST DEMON. CAPABILITY)
PROHIBITION MECHANISM	AUTHORITY TO PROHIBIT POLLUTANT DISCHARGES.	227.2 – PLANS MATERIALS INSUFFICIENTLY DESCRIBED TO PERMIT EVALUATION OF ENVIRONMENTAL IMPACT. (2) PROHIBITS OTHER MATERIALS (SEE REF.)	NONE

TOXIC SUBSTANCES LEGISLATION AND REGULATIONS

	POINT OF MANUFACTURE	POINT OF LEGISLATION/APPLICATION	WORKING ENVIRONMENT
	TOXIC SUBSTANCE CONTROL BILL (PROPOSED) (SB 776)	FEDERAL ENVIRONMENTAL PESTICIDES CONTROL ACT (PL 92-516)	OCCUPATIONAL SAFETY AND HEAL (PL 91-596)
	1975	1972	1970
	CONSUMER, WORKER, NATURAL ENVIRONMENT	WORKER, CONSUMER, NATURAL ENVIRONMENT	WORKER
WATER PUBLIC	TO REGULATE COMMERCE AND PROTECT HUMAN HEALTH AND THE ENVIRONMENT BY REQUIRING TESTING AND USE RESTRICTIONS ON CHEMICALS.	TO INSURE SAFE USE AND APPLICATION OF PESTICIDES BY CLASSIFICATION, REGISTRATION, REREGISTRATION AND CERTIFICATION OF APPLICATORS.	TO PROTECT THE HEALTH/SAFETY AND IMPROVE PHYSICAL WORKING
AZARDOUS	"UNREASONABLE RISK TO HUMAN HEALTH AND THE ENVIRONMENT – ANY RISK ASSOCIATED WITH MANUFACTURE, PROCESSING, IMPORTATION OR DISTRIBUTION IN COMMERCE . . . IF SUCH RISK OUTWEIGHS BENEFITS ASSOCIATED WITH SUCH MANUFACTURE, PROCESSING, IMPORTATION, OR DISTRIBUTION IN COMMERCE. ANY CHEMICAL SUBSTANCE . . . TO HAVE THE POTENTIAL TO INDUCE IN HUMAN BEINGS (1) CANCER (2) GENE MUTATIONS OR (3) BIRTH DEFECTS SHALL BE CONSIDERED TO PRESENT AN UNREASONABLE RISK . . . ." "IMMINENT HAZARD . . . . WILL RESULT IN AN UNREASONABLE RISK TO HUMAN HEALTH AND THE ENVIRONMENT PRIOR TO THE COMPLETION OF AN ADMINISTRATIVE HEARING OR OTHER PROCEEDING HELD PURSUANT TO THIS ACT".	"UNREASONABLE ADVERSE EFFECT ON THE ENVIRONMENT." – ANY UNREASONABLE RISK TO MAN OR THE ENVIRONMENT TAKING INTO ACCOUNT THE ECONOMIC, SOCIAL, AND ENVIRONMENTAL COSTS AND BENEFITS OF THE USE OF ANY PESTICIDE." "IMMINENT HAZARD" – CONTINUED USE OF A PESTICIDE DURING THE TIME REQUIRED FOR CANCELLATION PROCEEDINGS WHICH WOULD BE LIKELY TO RESULT IN UNREASONABLE ADVERSE EFFECTS ON THE ENVIRONMENT OR, WILL INVOLVE UNREASONABLE HAZARD TO THE SURVIVAL OF A SPECIES DECLARED ENDANGERED OR THREATENED . . . . ENDANGERED SPECIES ACT OF 1973."	DOES NOT DEFINE TOXIC, HIGHLY HAZARDOUS.
	EPA SHALL PRESCRIBE CRITERIA FOR DATA DEVELOPMENT IF "UNREASONABLE RISK" IS INVOLVED - USING GENERAL GUIDELINES IN THE LAW.	DETERMINATION OF UNREASONABLE ADVERSE EFFECTS (CFR 162.11) (TOXICOLOGICAL)	CRITERIA FOR INCLUSION IN THE STANCE LIST PUBLISHED BY NIOSH (TOXICOLOGICAL) (REF.)
REQUIRE-PLIANCE PESTI-CALS.	NONE	HUMAN AND DOMESTIC AQUATIC AND WILDLIFE TOXICOLOGY (ACUTE-SUB-ACUTE CHRONIC).	NONE
ARDS INANT RGANIC 41.11,	EPA WILL SPECIFY DATA REQUIREMENTS ON A CASE BY CASE BASIS.	WORKER PROTECTION STANDARDS FOR AGRICULTURAL PESTICIDES (PART 170) TOLERANCES – RAW AGRI. COMMODITIES.	(1) AIR CONTAMINANTS (2) CARDI (3) VINYL CHLORIDE (4) RECOMM DARDS FOR OCCUPATIONAL EXPO PUBLISHED CRITERIA DOCUMENT
ABILITY) ABILITY)	EPA EPA	EPA EPA EPA	LABOR (WITH ADVISE OF HEW) ASST. SEC. LABOR FOR OSH* ASST. SEC. LABOR FOR OSH*
	EPA CAN PETITION THE COURTS TO RESTRICT/SUSPEND, FOR IMMINENT HAZARDS.	EPA CAN ISSUE NOTICE OF INTENT TO DENY OR CANCEL REGISTRATION OR TO HOLD HEARINGS (REBUTTABLE PRESUMPTION)	NO BANNING AUTHORITY IN THE

*OCCUPATIONAL SAFETY AND HEALTH

WORKING ENVIRONMENT	PERSONAL PRODUCT/PROTECTION	COMMERCIAL PRODUCT/PROTECTION
OCCUPATIONAL SAFETY AND HEALTH ACT (PL 91-596)	FEDERAL FOOD, DRUG AND COSMETIC ACT (PL 75-717)	FEDERAL HAZARDOUS SUBSTANCE ACT (PL 86-613)
1970	1938	1960
WORKER	CONSUMER	CONSUMER
TO PROTECT THE HEALTH/SAFETY OF WORKERS AND IMPROVE PHYSICAL WORKING CONDITIONS.	TO REGULATE INTERSTATE COMMERCE TO PROTECT CONSUMER FROM HAZARDS OF DELETERIOUS, ADULTERATED MIS-BRANDED FOOD, DRUGS, COSMETICS. (TOXICOLOGICAL)	TO PROTECT CONSUMER FROM INTERSTATE COMMERCE PRODUCTS WHICH COULD PRODUCE INJURY/ILLNESS THROUGH INGESTION IN-HALATION, ABSORPTION.
DOES NOT DEFINE TOXIC, HIGHLY TOXIC, HAZARDOUS.	DOES NOT DEFINE HAZARDOUS, TOXIC, HIGHLY TOXIC.	TERM "HAZARDOUS SUBSTANCE" SHALL NOT APPLY TO PESTICIDES UNDER FIFRA OR SUB-STANCES COVERED BY FOOD, DRUG, COSMETIC ACT; "TOXIC" – ANY SUBSTANCE WHICH HAS CAPACITY TO PRODUCE PERSONAL INJURY OR ILLNESS TO MAN THROUGH INGESTION, INHALATION, ABSORPTION; "HIGHLY TOXIC" STANDARDS FOR LAB TESTS ON ANIMALS WHICH PRODUCE DEATH AT CERTAIN LEVELS. (SEE SECTION 1261 TITLE 15 U.S. CODE IN REFERENCE).
CRITERIA FOR INCLUSION IN THE TOXIC SUB-STANCE LIST PUBLISHED BY NIOSH. (TOXICOLOGICAL) (REF.)	CRITERIA PRESENT FOR (1) TOLERANCE FOR RELATED PESTICIDE CHEMICALS AND (2) PESTICIDE TOLERANCES REGARDING MILK, EGGS, MEAT, AND/OR POULTRY; (TOXICOLOGICAL)	CRITERIA PRESENT FOR HAZARDOUS SUBSTANCE, TOXIC, HIGHLY TOXIC (TOXICOLOGICAL) (1500.3, 4, 5, 16 CFR)
NONE	NONE. (EPA SHALL INCLUDE ANALYTICAL METHODS AVAILABLE IN THE NOTICE OF FILING THE PETITION TO ESTABLISH TOLERANCE LEVELS.)	ESTABLISHES METHODS FOR TESTING TOXIC SUBSTANCES (ACUTE, DERMAL, TOXICITY, SINGLE EXPOSURE) (1500.40, 16 CRR)
(1) AIR CONTAMINANTS (2) CARDINOGENS (3) VINYL CHLORIDE (4) RECOMMEND STAN-DARDS FOR OCCUPATIONAL EXPOSURE IN PUBLISHED CRITERIA DOCUMENTS.	TOLERANCE LEVELS FOR (1) RESIDUES ON RAW AGRICULTURAL COMMODITIES (2) RESIDUES ON ANIMAL FEEDS. (180, 40 CFR)	NONE. (USES STANDARDS, ALREADY PROMUL-GATED FROM RELATED ACTS.)
LABOR (WITH ADVISE OF HEW) ASST. SEC. LABOR FOR OSH* ASST. SEC. LABOR FOR OSH*	HEW EPA – SETS TOLERANCE LEVELS EPA – ENFORCES TOLERANCE STANDARDS	CONSUMER PRODUCT SAFETY COMMISSION CONSUMER PRODUCT SAFETY COMMISSION CONSUMER PRODUCT SAFETY COMMISSION
NO BANNING AUTHORITY IN THE CODE/CFR.	NO BANNING AUTHORITY	MAY BAN HAZARDOUS SUBSTANCES WHEN PUBLIC HEALTH/SAFETY CAN ONLY BE SERVED BY SUCH ACTION. (1500.17)

(Ref. Doc.) Reference Document – Available in the ES&WOIAC
(Ref.) Reference – Found in the Member Background Information

DEFINITIONS*

1. Criteria - established rules/principles for testing.

2. Protocol - the total procedure used in testing.

3. Standard - that which constitutes or affords a standard for comparison - a measurement/judgement.

4. Toxicity - property of a substance or mixture of substances to cause an adverse effect.

    a. Acute Toxicity - property of a substance or mixture of substances to cause adverse effects in an organism through a single short term exposure 162.3 (nn) (1).

    b. Subacute Toxicity - property of a substance or mixture of substances to cause adverse effects in an organism upon repeated or continuous exposure less than 1/2 the lifetime of that organism.

    c. Chronic Toxicity - property of a substance or mixture of substances to cause adverse effects in an organism upon repeated or continuous exposure over a period of the lifetime of that organism.

Note: the above definitions for toxicity were taken from the Regulations Chapter I Title 40 Subpart A - 162.3 Definitions of FIFRA.

    d. Dermal Toxicity - skin sensitivity and skin absorption.

    e. Oral Toxicity - ingestion by mouth.

    f. Ocular Toxicity - eye sensitivity.

    g. Inhalation Toxicity - sensitivity of nose, eyes, throat and lungs to breathing the material.

    h. LD50 - the amount which will kill 50% of the population at a given dosage.

    i. Carcinogenic effects - cancer producing.

    j. Teratogenic effects - aging at early age.

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k. Mutagenic effects - changes in the genetic make-up as evidenced by harmful changes in the physical/chemical make-up of the offspring as measured through several generations.

l. Biological Transformation - changes in the physical/chemical characteristics of the individual because of exposure to toxic materials (For example: Minimata disease in Japan bent bones and muscle spasms due to ingestion of mercury in water and seafood).

m. Bio-accumulation - chronic assimilation and build-up of a toxic material in living systems in a given food chain which pose threats upon ingestion of other organisms may be responsible for cancer/aging/mutations and biological transformations.

* These "definitions" are not to be construed as comprehensive and definitive. They are provided soley as a general guide to terminology for the non-specialist in toxic substances.

A P P E N D I X

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United States Senate
COMMITTEE ON COMMERCE
WASHINGTON, D.C. 20510

September 24, 1975

Dr. Martha Sager
Chairman, ES&WQIAC
Environmental Protection Agency
Crystal Mall, Building 2
Washington, D. C. 20460

Dear Dr. Sager:

We have carefully followed the development of the ES&WQIAC study on an "analysis of toxic substances legislation."

The effort and its results will be of direct and immediate utility to the Commerce Committee in the development of a Toxic Substances Act as well as of considerable value to EPA in its responsibility for implementing the toxic substances requirements of P.L. 92-500.

Accordingly, we should like to offer our continuing support to this ES&WQIAC effort.

Please keep us apprised of additional efforts here. We shall look forward to the report on the study and your continuing liaison with the committee.

With best wishes,

Cordially,

TED STEVENS
United States Senator

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ES&WQIAC TOXIC SUBSTANCE LIST COMMENTS (1973)

With reference to formation of toxic pollutant list required by Section 307 of P.L. 92-500, the committee would like to make recommendations concerning the basis for inclusion on the list:

1. Any toxic substance demonstrated to affect aquatic organisms adversely should be included provided that (a) adequate experimental data are available to set safe limits and (b) accumulation of materials to unsafe levels for the organism or to other organisms higher in the food chain have been demonstrated.

2. Substances should not be excluded from the list because of uncertainty concerning problems of monitoring.

3. Materials related to human health should not be included on the list unless their relationship to aquatic organisms is demonstrated or detrimental accumulation in human food of aquatic origin has been shown.

4. Human health concerns with toxic materials in water should be dealt with through established drinking water standards.

5. Toxic effluent limits which would be more restrictive than best practical treatment should be adjusted in accordance with water quality standards in receiving waters.

6. Substances which after discharge to water form, through chemical or biological means, toxic materials as outlined above should be included on the list.

In summary, the toxic list should include all materials demonstrably detrimental to aquatic life where sufficient data are available to set safe limits in the receiving water. Where toxic substances have insufficient discharge from point sources to constitute a hazard regardless of effluent strength they should not be included.

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ES&WQIAC POSITION PAPER ON TOXIC SUBSTANCE REGULATIONS (1974)

ES&WQIAC has considered the materials on the toxic substance list authorized in Section 307 of P.L. 92-500 in the light of several hearings, basic data available to the committee, and comments from industry. The committee would like to draw several considerations to the attention of the Administrator and to present its comments with reference to this important requirement of the law. These comments are submitted for possible future guidance and have not been formulated with reference to legal interpretations of Section 307 or administrative and implementation restraints.

1. Adequate research has not been done on some of the materials proposed for a toxic list to insure accurate evaluation of their toxicity to aquatic, terrestrial, and human life when these materials are released in water.

2. Available data on some materials indicate that biomagnification in fish and invertebrates can far exceed levels tolerable for human or animal consumption although concentrations in water may be below levels detectable by usual field chemical procedures.

3. For some materials (cyanide) field chemical procedures are not available to give accurate assessment of the toxic form (HCN) and, further, the proportion of total cyanide which is made up of HCN cannot be predicted accurately when certain compounds subject to photodecomposition (ferrocyanide) are in the effluent. Turbidity, water color, temperature, pH, amount of sunlight, and time of day may alter the amount of HCN present.

4. A sliding scale of effluent limitation based on the degree of dilution places differential economic burden on discharges depending on

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geographic location; further, increased effluent discharge based on amount of dilution in the receiving water will not necessarily protect organisms from the biomagnification alluded to above.

5. Rigid enforcement of effluent standards which guarantee absolute protection of all aquatic, terrestrial, and human life and prevent significant biomagnification has the potential of shutting down important segments of industry, particularly if present stipulated compliance deadlines are observed.

6. The requirements of best available treatment (BAT) of effluents by 1983 will satisfy most objectives of 307 by that date and application of best practical treatment (BPT) will minimize some problems.

In view of the considerations outlined above, the committee submits the following comments.

1. Effluent standards for toxic substances should be based on a preponderance of scientific evidence demonstrating effects on humans, terrestrial animals, or aquatic life depending on which group will be affected by the discharged materials.

2. It should be clearly stated and justified in support documents that effluent standards for particular materials are predicated on protection of human, terrestrial, or aquatic life, since concentrations affecting one group adversely may be essentially harmless to another.

3. Effluent standards should be based on total weight of material discharged rather than concentration since additive loadings from a series of plants could cause undesirable stream loadings regardless of the dilution factor.

4. Where potential biomagnification in fish and subsequent ingestion by animals or humans is the basis for establishment of an effluent standard demonstrated levels of accumulation should be established before promulgation of the standard.

5. Materials for which removal technology is not available should be omitted from the toxic list unless detriment to humans, terrestrial animals, or aquatic life at probable levels of ingestion of fish or invertebrates or direct exposure is demonstrated by a preponderance of scientific data.

6. The time limit for compliance should be extended sufficiently to permit installation of available removal technology.

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